

AMENDMENTS TO THE CLAIMS

Please cancel claims 2 and 11 without prejudice and accept amended claims 1,4-8, 10, and 13-18 as follows:

1. (Currently Amended) A method of determining a fail string for a device comprising the steps of:

determining ~~a test pattern for a portion of an address space wherein the test pattern includes at least one address in the address space and the portion of the address space includes at least one x address and at least one y addresses~~ to test for determining an occurrence a fail type, wherein the address spaces comprises x addresses and y addresses of the device;

executing ~~a test a plurality of times for each~~ a test pattern at least two times for each address, wherein every combination of the test pattern is tested, wherein the combinations include each address held at a first potential for at least a first test and a second potential for at least a second test;

determining a fail string for the device including pass/fail results for the test pattern, wherein different subsets of the fail string correspond to different fail types; and

~~combining the pass/fail results in the fail string~~ determining the occurrence of the fail type according to the pass/fail results of a subset of the fail string.

2. (Cancelled)

3. (Original) The method of claim 1, wherein the test pattern includes a single address.

4. (Currently Amended) The method of claim 3 1, further comprising the steps of:

holding ~~the test pattern~~ each address individually at the first potential during a first test, yielding in a pass/fail result; and

holding ~~the test pattern~~ each address individually at the second potential during a second test, yielding in a pass/fail result.

5. (Currently Amended) The method of claim 1, further comprising the step of executing the test for the test pattern, wherein the test pattern is a combination of at least ~~one address~~ two addresses.

6. (Currently Amended) The method of claim 1, wherein the step of determining the test pattern further includes the step of determining at least one x address and at least one y address according to ~~a targeted~~ the fail type to be determined, wherein the ~~targeted~~ fail type to be determined is identified using a subset of the addresses in the address space.

7. (Currently Amended) The method of claim 1, further comprising the step of generating a pseudo compressed bitmap comprising a plurality of cells of the x addresses and y addresses needed to determine the fail type, wherein each cell is one of a passing cell and a failing cell.

8. (Currently Amended) The method of claim 7, ~~wherein the failing cell manifests itself as~~ further comprising:

determining the failing cell upon determining a fail in the pass/fail results for every test pattern x-y address combination addressing the failing cell; and

determining the passing cell has at least one pass result for at least one test pattern upon determining any one passing x-y address combination addressing the passing cell.

9. (Original) The method of claim 1, further comprising the step of generating a pareto.

10. (Currently Amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for generating a pseudo compressed bitmap for a device, the method steps comprising:

~~determining a test pattern for a portion of an address space wherein the test pattern includes at least one address in the address space and the portion of the address space includes at least one x address and at least one y addresses~~ to test for determining an occurrence a fail type, wherein the address spaces comprises x addresses and y addresses of the device;

~~executing a test a plurality of times for each a test pattern at least two times for each address, wherein every combination of the test pattern is tested, wherein the combinations include each address held at a first potential for at least a first test and a second potential for at least a second test;~~

~~determining a fail string for the device including pass/fail results for the test pattern, wherein different subsets of the fail string correspond to different fail types; and~~

~~generating a pseudo compressed bitmap by combining each pass/fail result according to a Boolean AND function~~ one or more subsets of the fail string; and

diagnosing a failure of the device according to the pseudo compressed bitmap.

11. (Cancelled)

12. (Original) The method of claim 10, wherein the test pattern includes a single address.

13. (Currently Amended) The method of claim ~~12~~ 10, further comprising the steps of:

holding ~~the test pattern~~ each address individually at the first potential during a first test, yielding in a pass/fail result; and

holding ~~the test pattern~~ each address individually at the second potential during a second test, yielding in a pass/fail result.

14. (Currently Amended) The method of claim 10, further comprising the step of executing the test for the test pattern, wherein the test pattern is a combination of at least ~~one address~~ two addresses.

15. (Currently Amended) The method of claim 10, wherein the step of determining the test pattern further includes the step of determining at least one x address and at least one y address according to ~~a targeted~~ the fail type to be determined, wherein the ~~targeted~~ fail type to be determined is identified using a subset of the addresses in the address space.

16. (Currently Amended) The method of claim 10, wherein the pseudo compressed bitmap comprises a plurality of cells of the x addresses and y addresses needed to determine the fail type, wherein each cell is one of a passing cell and a failing cell.

17. (Currently Amended) The method of claim 16, ~~wherein the failing cell manifests itself as~~
further comprising:

determining the failing cell upon determining a fail in the pass/fail results for every test
~~pattern~~ x-y address combination addressing the failing cell; and

determining the passing cell has at least one pass result for at least one test pattern upon
determining any one passing x-y address combination addressing the passing cell.

18. (Currently Amended) A method of generating a pseudo compressed bitmap for a device
comprising the steps of:

generating a pseudo compressed bitmap by combining a plurality of pass/fail results
~~according to a Boolean AND function of a fail string; and~~

displaying the pseudo compressed bitmap wherein the pass/fail results correspond to at
least one X address pin and one Y address pin, and wherein each address pin corresponds to a
plurality of pass/fail results, wherein a bit is determined to pass in the pseudo compressed bitmap
upon determining that any address pin that addresses the bit passes.

19. (Original) The method of claim 18, wherein every combination of a test pattern including at
least one address is tested, wherein the combinations include each address held at a first potential
for at least a first test and a second potential for at least a second test.